

Docket No.: 0365-0501P
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Jouni KIVELA et al.

Application No.: 09/831,600

Confirmation No.: 5717

Filed: May 11, 2001

Art Unit: 1796

For: METHOD AND APPARATUS FOR
DISCHARGING POLYMERIZATION
REACTORS

Examiner: W. K. Cheung

DECLARATION UNDER 37 CFR 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Klaus Nyfors, , declare and say as follows:

I have a university degree in chemical engineering. Since 1984 I have worked in different tasks in the field of design and engineering of polyolefin production plants. During that period I have collected a vast experience in this field and especially in olefin polymerization reactors.

I am familiar with U.S. Application Serial No. 09/831,600, of which I am a co-inventor. I have reviewed the Office Actions issued on June 3, 2008 and November 30, 2007 in connection with this application. I have also reviewed the references cited by the Examiner in these Office Actions. The following demonstrates that the ratio between the polymer powder and the polymer particle agglomerates discharged from the reactor of Bernier et al. (U.S. 5,834,571) is outside of

the present range of 1:1 to 10,000:1.


Discussion

During a normal fluidized operation, the ratio of the polymer carried by the recycle gas to the polymer withdrawn via a discontinuous outlet is much less than 0.1:1. This was measured by taking samples from the recycle gas stream and measuring the amounts of polymer and gas in the sample. Further, the flow rate of the recycle gas was measured by using a mass flow measuring instrument. In this way it could be calculated that the amount of polymer leaving the reactor continuously with the fluidization gas was about 3 kg/h. At the same time the amount of polymer withdrawn through the discontinuous outlet was about 20 000 kg/h. Thus, the ratio of the amount of polymer carried by the recycle gas to the amount of polymer withdrawn via the discontinuous outlet was 3:20000, or about 0.0002:1.

The process of Bernier et al. requires a liquid component, which is provided in an amount sufficient to substantially reduce or eliminate the presence of fines in the gases withdrawn from the polymerization zone. As a result, a smaller amount of powder is carried by the recycle gas out of the reactor of Bernier et al., as compared to a normal fluidized operation, since it is the fine particles those which leave the bed with the fluidization gas.

Thus, the ratio between the polymer powder and the polymer particle agglomerates discharged from the reactor of Bernier et al. is necessarily lower than the ratio during a normal fluidized operation. Therefore, it is my opinion that the ratio between the polymer powder and the polymer particle agglomerates discharged from the reactor of Bernier et al. is much lower than 0.01:1, and outside of the present range of 1:1 to 10,000:1.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.


Signature

KLAR NYFORP
Typed or Printed Name

27.10.2008
Date

2008-10-27

CURRICULUM VITAE**PERSONALIA**

Name Mr. Klaus Nyfors
 Date and place of birth 30.08.1952, Helsinki
 Family married 1977
 Britt-Marie Nyfors
 children born in 82 , 86, 91

BASIC EDUCATION

1977	M.Sc. (Chem Eng.)	Åbo Akademi
1971	High School Graduate	Vasa Svenska Lyceum

ADDITIONAL TRAINING**PUBLICATIONS**

Liquid Membrane Extraction, Kemia- Kemi 1979

WORK EXPERIENCE/MAIN PROJECTS

2008 -	Senior Group Expert, PO process Technology
2002-2008	Borealis Polymers OY, Projects and operation support: Senior Staff Engineer
2000- 2002 (?)	Borealis Polymers OY, Corporate Engineering: Senior Staff Engineer/Project Manager
1994 - 2000	Borealis Polymers OY, R&T: Process Development Manager
1989 - 1994	Neste Engineering: Group Leader Process Engineering
1984 - 1989	Neste Engineering Process engineer
1979-1984	Finnish Chemicals OY - project Engineer , - Process Engineer and Laboratory manager
1977-1979	Assistant, Åbo Akademi

SPECIAL SKILLS

Polyolefin process technology
 Process design

LANGUAGES

Swedish	(mother tongue , 1)
Finnish	(mother tongue , 2)
English	(written/spoken, good)
German	(written/spoken, fair)

Best Available Copy

CONTACT

Work

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